NetEye1000 Series® User Manual Version 2.51

NetEye1000SA **External Type using power adapter**
NetEye1000SB **Internal Type**
NetEye1000HA **External Type power module included**
NetEye1000HB **Internal Type**
Firmware Ver. 2.00sc

NetEye 1000 SA

SM Information & Communication

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Environmnets

Input Voltage : DC6~12 V from general Power Adapter
DC 5V for Pin No 6 of DB 9 serial connector. (pin power)

Input current : max 200mA

Storage Humidity : 0 ~ 95%

Operating Temp: 0 ~ 70 °C

Storage Temp : -20~70 °C

1. Overview

1.1 NetEye Overview

NetEye1000 is an internet access device (Serial To Ethernet Converter)with which stand-alone electronic equipments, which communicate with serial connections (i.e., RS-232C, RS-422, RS-485), may access to internet via 10 Base-T Ethernet Interface. NetEye1000 is designed as a subminiature embedded system, card-sized, having TCP/IP kernel, Ethernet Chip and Serial port.

A user may access NetEye1000 using a general standard socket programming and use serial communication protocols for the device without any change. A user can monitor and control any stand-alone electronic equipments in the Network circumstance.

There are 4 type of NetEye 1000. NetEye1000SA is external type and it uses power adapter. NetEye1000SB is internal board type of NetEye1000SA. NetEye1000HA is external type and it has a 84~264VAC (47~440hz) free power module inside. NetEye1000HB is internal board type of NetEye1000HA. Neteye1000 series have features as follows.

- ✓ **Serial To Ethernet Converting.**
- ✓ **NetEye1000 has Server and Client Mode. You can select from setup program.**
- ✓ **Serial Speed : 300 ~ 115200 bps.**
- ✓ **You can search NetEyes by Group.**
- ✓ **It supports 5, 6, 7, 8 data bit.**
- ✓ **You can search and setup NetEyes from remote network(not only same network).**
- ✓ **Password Management is possible for remote search.(default password is "*smicneteye*") .**
- ✓ **Connection Expiration Time : 0 second ~ Endless : You can define it from setup program.**

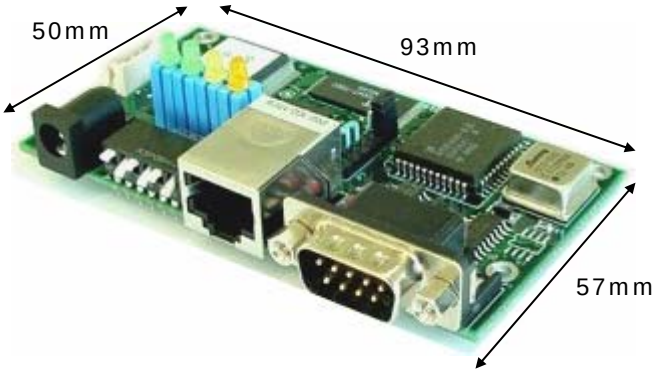
  Exp Time : 40 sec is recommended. (you can change as you want.)

  Exp Time: If you do not access NetEye1000 for 40 sec, TCP connection will be disconnected automatically. After disconnection, you should reconnect to NetEye1000.
- ✓ **TCP Connection status Lamp with RX, TX and Collision Detect Lamp is provided.**
- ✓ **Setup Program includes Socket Simulation Program for convenient test.**
- ✓ **It works very well with various Hub and Router.**
- ✓ **Pin No 6. of DB9 serial connector of NetEye1000S Model can be used as +5VDC power supply pin, if your legacy device can provide +5VDC power. You can also use 6~10VDC power adapter.**

NetEye1000 series is reliable and not expensive . It is tested at various fields for more than 3 years. And more than 10,000 units have been installed without any problem.

1.2 NetEye1000 Dimension.

NetEye1000SA Dimension

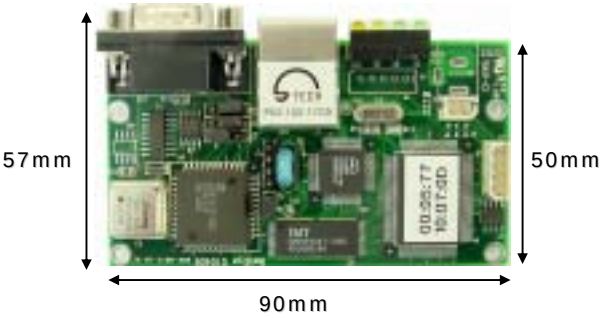


NetEye1000SB Dimension

- 85~264 AC Power Module Included
- Aluminum Case
- Power On/Off Switch
- Guide Included

NetEye1000HA

NetEye1000HA Dimension



NetEye1000HB Dimension

2. Specification

2.1. NetEye1000 Hardware Specification

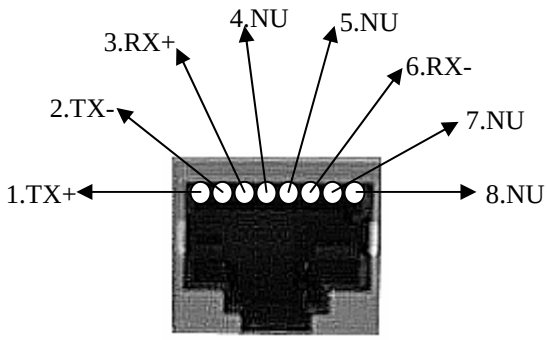
Item	NetEye1000
CPU	(8-Bit Micro Controller, 50MIPS)
Memory	4Kbytes Program Memory 256Bytes SRAM (Data Memory) 512K Bytes Flash Memory (System Parameter)
Network Hardware	10 Base-T Ethernet Interface (IEEE 802.3) RS232, 422, 485 (Serial 1 port)
Network Protocol	TCP/UDP
	IP/ICMP/ARP
	IEEE802.3(STANDARD ETHERNET)
Utility Software	NetEye Setup Utility Software (Windows 98/ME/NT/2000/XP) NetEye Search, IP Setup, Built-In on Network. Test Result Display Simulation Program

NetEye1000 Specification

2.2. RJ45 Pin Description

Pin No.	Description	Color
1	TX+	White with Orange
2	TX-	Orange
3	RX+	White with Green
4	NOT USED	Blue
5	NOT USED	White with Blue
6	RX-	Green
7	NOT USED	White with Brown
8	NOT USED	Brown

RJ45 Connector Pin Description



RJ45 Pin Configuration

2.3. DB9 Connector Pin Description

Pin Number	Signal	Description	Function
1.	TRX+	RS485+	Difference + Signal for RS485
2.	RXD	RS232 Recv	Data Recv for RS232
	RX+	RS422 Recv+	Data Recv+ for RS422
3.	TXD	RS232 Send	Data Send for RS232
	TX+	RS422 Send+	Data Send+ for RS422
4.	TRX-	RS485-	Difference + Signal for RS485
5.	GND	Ground	Signal Ground
6.	CTS	Clear To Send For RS232C	Clear To Send Input for RS232 (not used)
	PWR	**+5V DC Power Pin**	**Can be used Power Supply Pin with Dip Switch**
7.	RX-	RS422 Recv-	Data Recv -for RS422
8.	TX-	RS422 Send-	Data Send – for RS422
9.	RTS	Ready To Send for RS232C	Ready To Send Output for RS232 (not used)

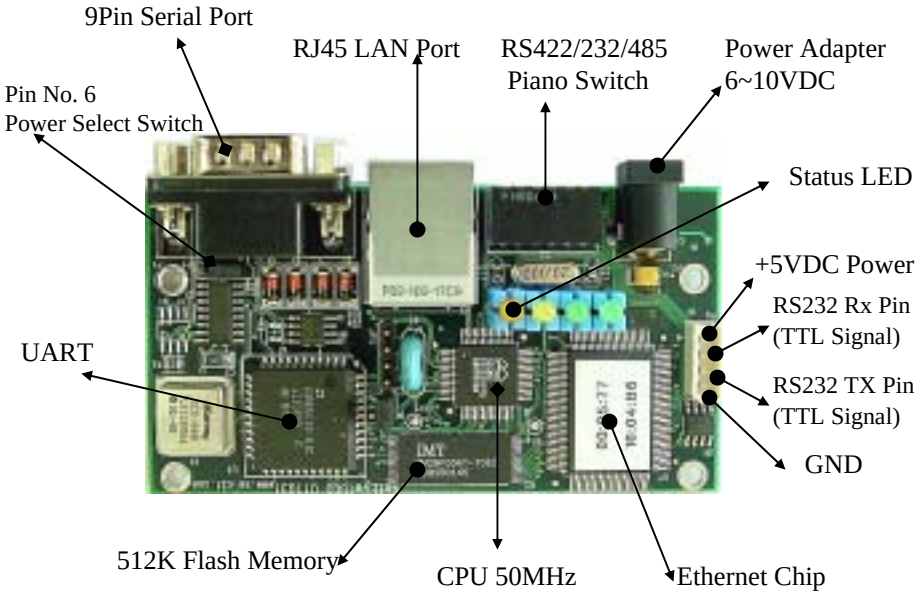
NetEye 1000 DB9 Connector Pin Description

2.4. Status LED Description

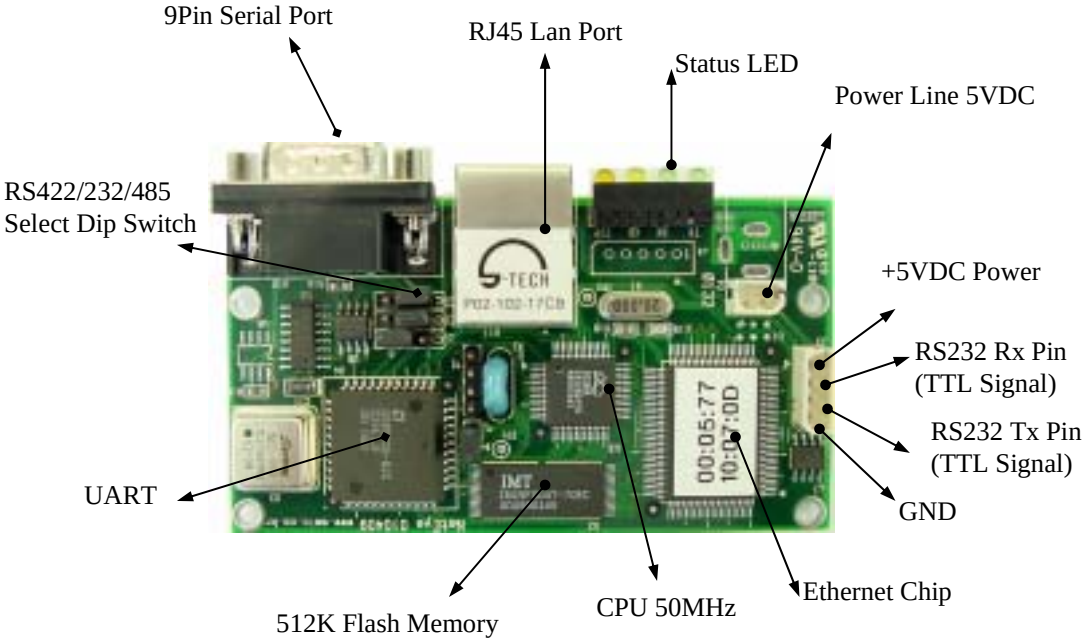
LED	Color/U-No	Description
TX	Green/D1	It light on when Power is On. And it blinks in the normal connection only when NetEye send data to PC indicating the Ethernet Controller (RTL8019AS) is sending data to a network.
RX	Green/D2	It light on when Power is On. It Indicates that the Ethernet controller is receiving data from a network. It is blinking frequency changes subject to the traffic volume of a network.
CD (Collision)	Yellow/D3	Indicating that an Ethernet packet sending from the Ethernet controller to a network collides with another one from other devices or computers. In this case the Ethernet controller resends the collided packet automatically after the lapse of specified period.
TCP (Establish, Power)	Orange/D4	When Power is On, it blinks during 3 seconds for Arp table update of general router and out. It is Indicating that NetEye 1000S is connected to the user's PC via a TCP Port Number. When connection between NetEye and PC Program is established, the LED is on.

NetEye 1000 LED Description

2.5 . NetEye1000 Hardware Description

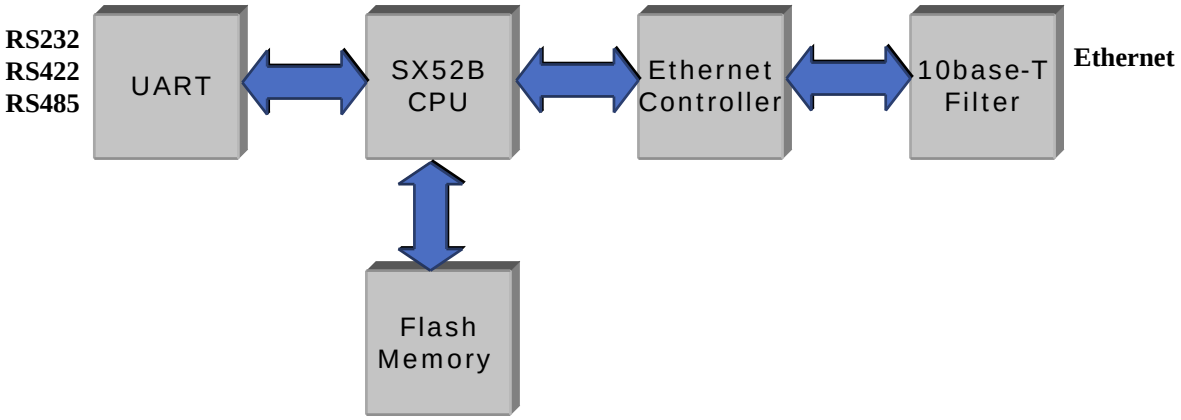


NetEye1000SB



NetEye1000HB

2.6. NetEye 1000 Hardware Block Diagram

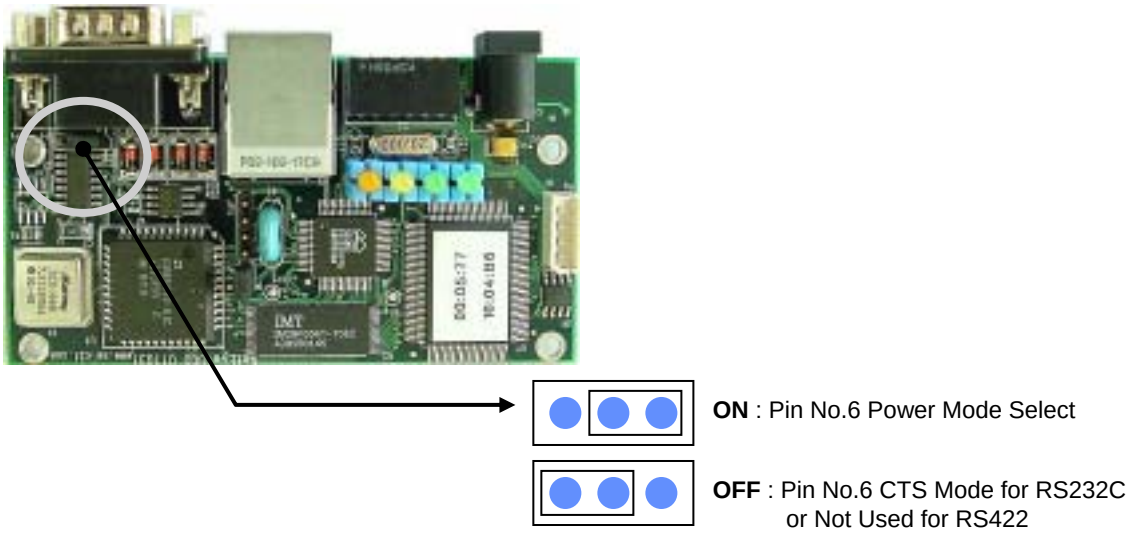


NetEye 1000 Hardware Block Diagram

3. Switch Setup Description

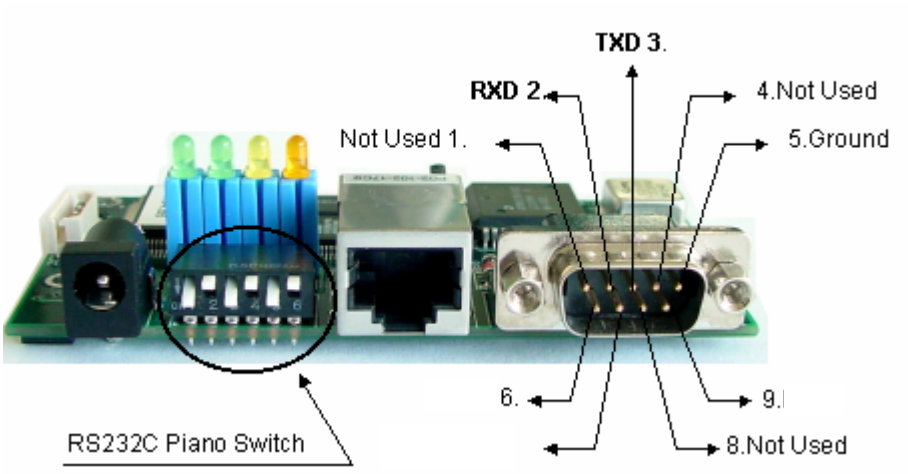
3.1. NetEye1000S Pin Power Mode switch select

If Pin No.6 Power Select Dip switch is selected(ON), Pin No 6. can be used Power, Normal status is On.

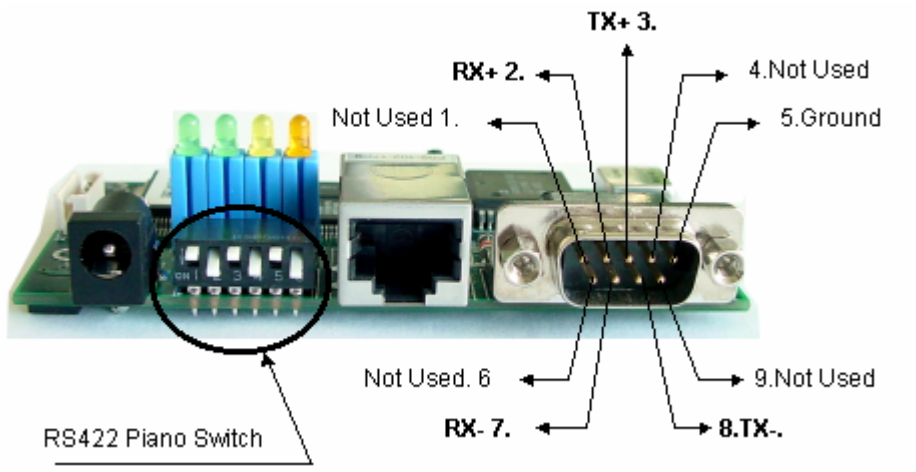


Pin No.6 Power Select Dip switch

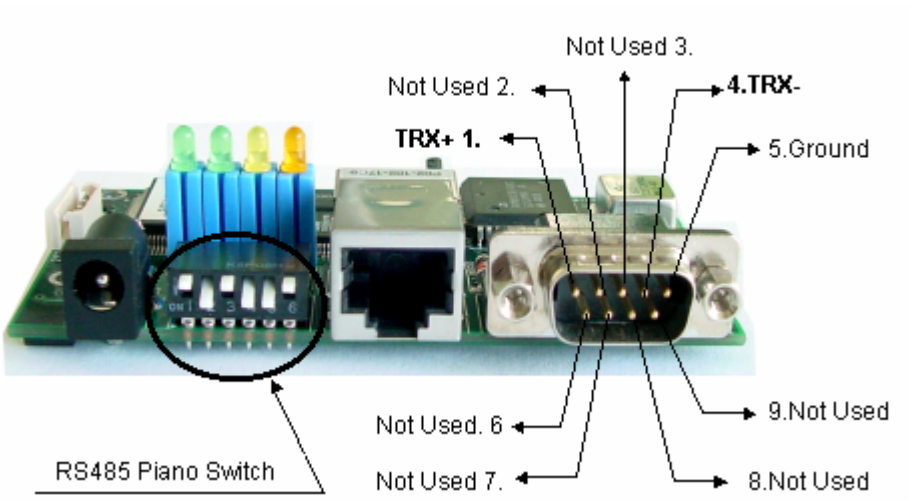
3.2. NetEye 1000S RS232/422/485 Piano Switch Select and DB9 connector Pin Spec



Piano Switch Select and Serial Port Pin Spec for RS232

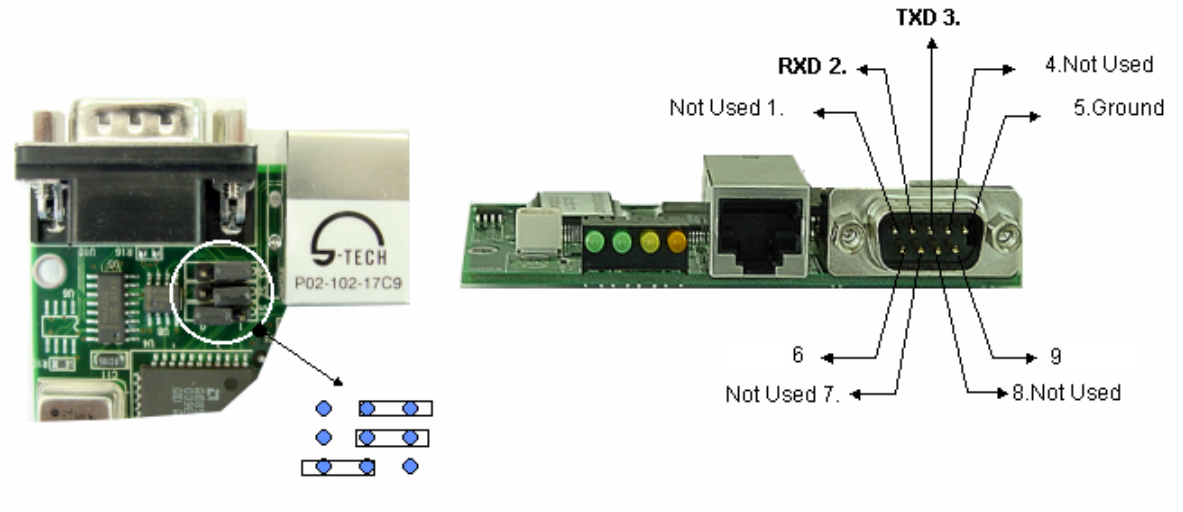


Piano Switch Select and Serial Port Pin Spec for RS422

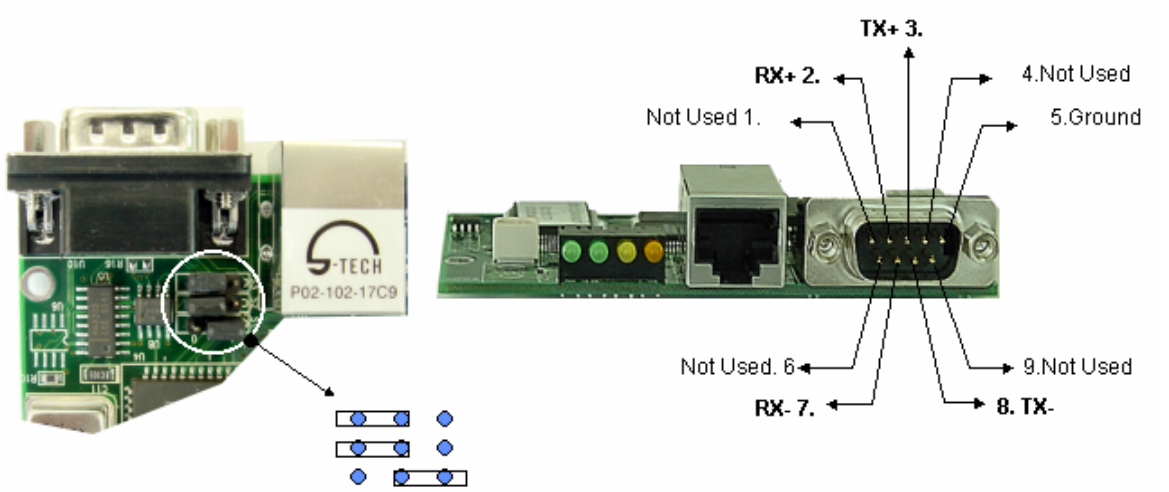


Piano Switch Select and Serial Port Pin Spec for RS485

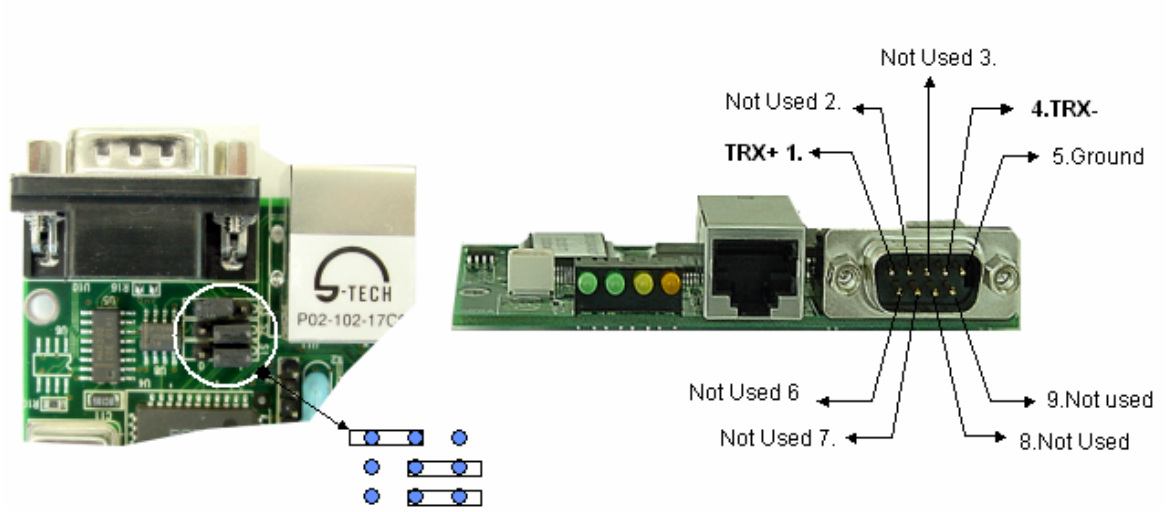
3.3. NetEye 1000H RS232/422/485 Dip Switch Select



Dip Switch Select and Serial Port Pin Spec for RS232



Dip Switch Select and Serial Port Pin Spec for RS422



4. Setup Utility Software

4.1. NetEye1000 Setup Utility Software

1. Connect NetEye1000 to your Network and Power On.
2. Download Setup Utility software v.2.18 from www.smic21.com download Field.
3. Install and execute it.
4. If you have any NetEye1000 on your network, you must see the NetEye item on your screen automatically.
5. If you double click any Neteye1000S, you can see ***Device Setup*** Dialog Box.
6. Change parameters as you want.
7. Your setup ends by clicking OK button.

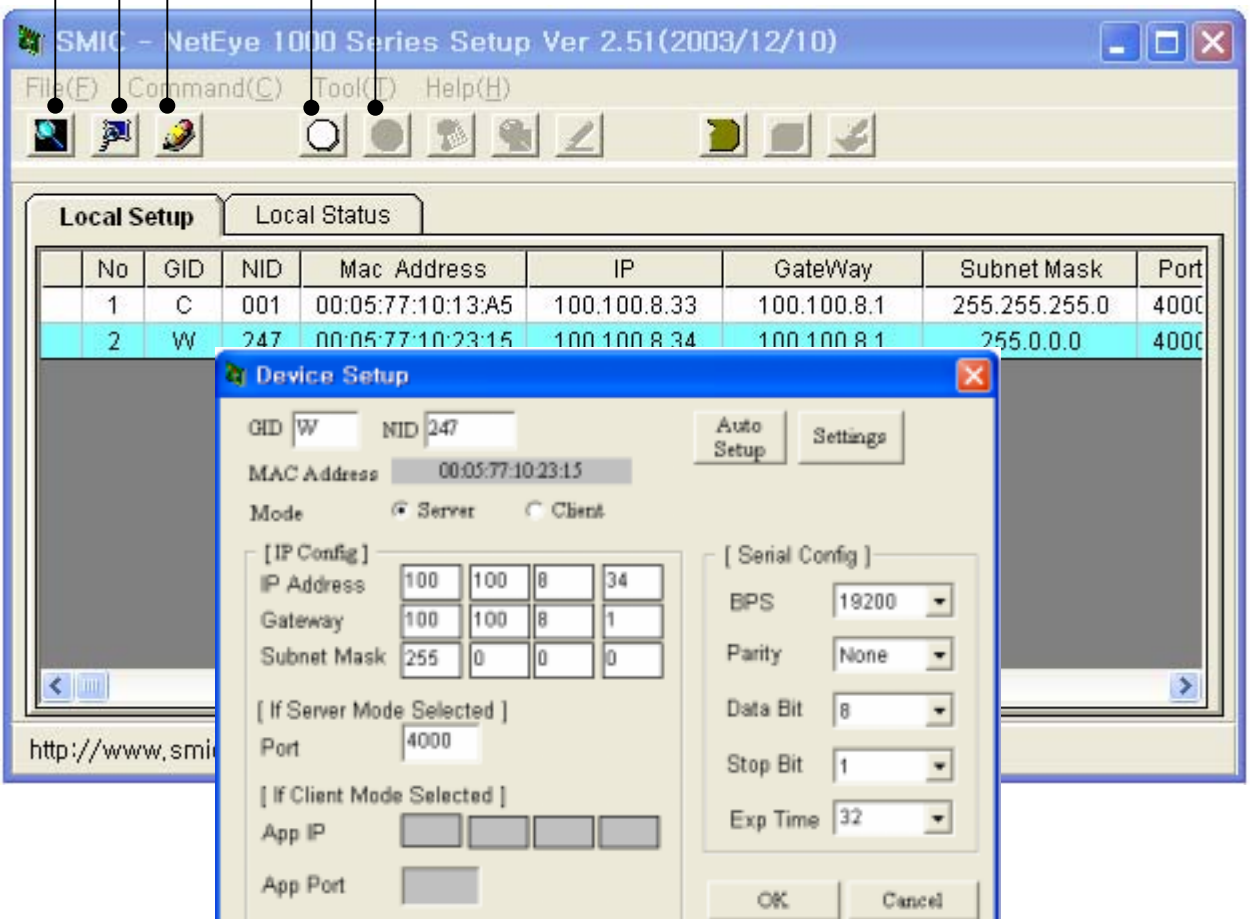
Local Search All: Search all NetEye1000 on the same network.

Local Search Group: Search NetEye1000 by Group ID.

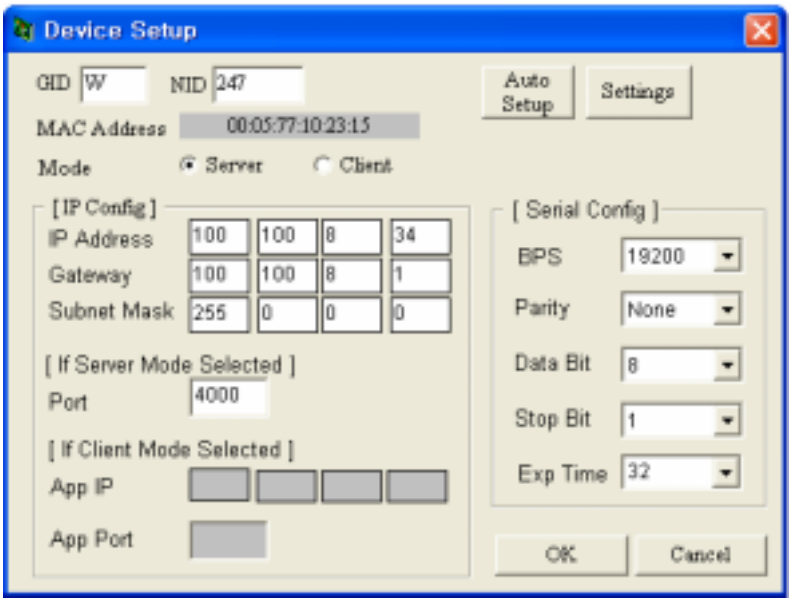
Local Edit: Run Device Setup dialog Box and Edit parameters.

Remote Enable: Enable remote mode,

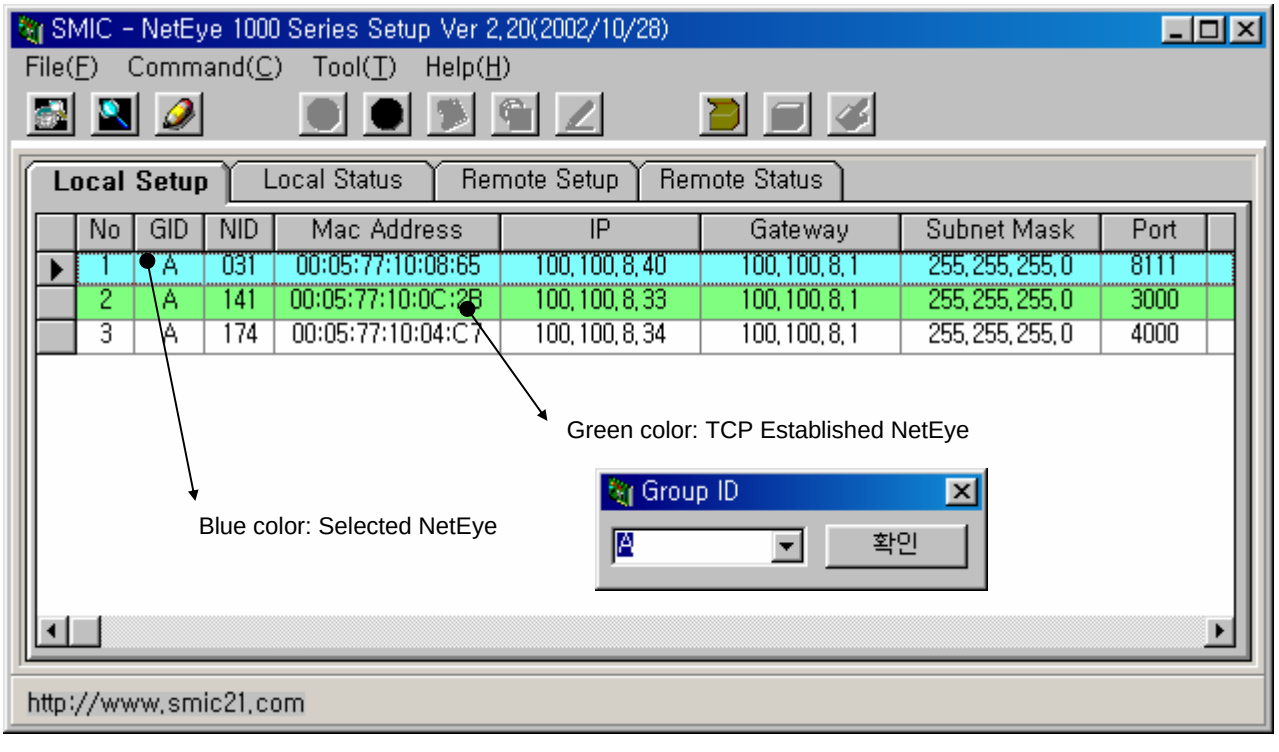
Remote Disable: Disable remote mode



If you click “Client” on Device Seup Dialog Box, the Client Mode is selected. And you can input Application IP address and Port Number. When Client Mode NetEye starts, NetEye try to connect to the Application IP and Port Number as TCP client process. You can connect to NetEye on client Mode by Connect button on the right side. It is very useful for client mode test. Try to test with simulator in the Tool menu.

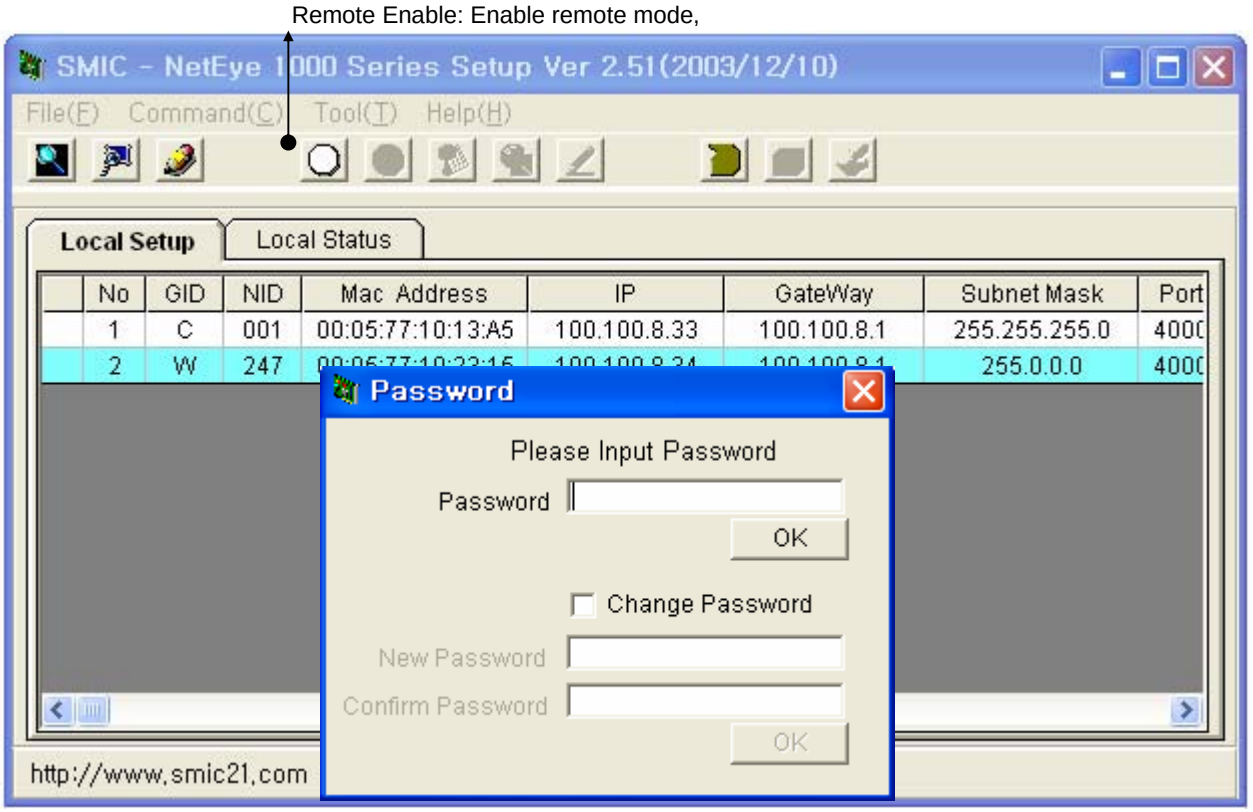


If you click “Local Search Group” NetEye Setup Program, you can see following Group ID Dialog Box, And you can select Group ID from “A” to “Z”, When you select “A”, Setup Program searches only by Group ID ”A”

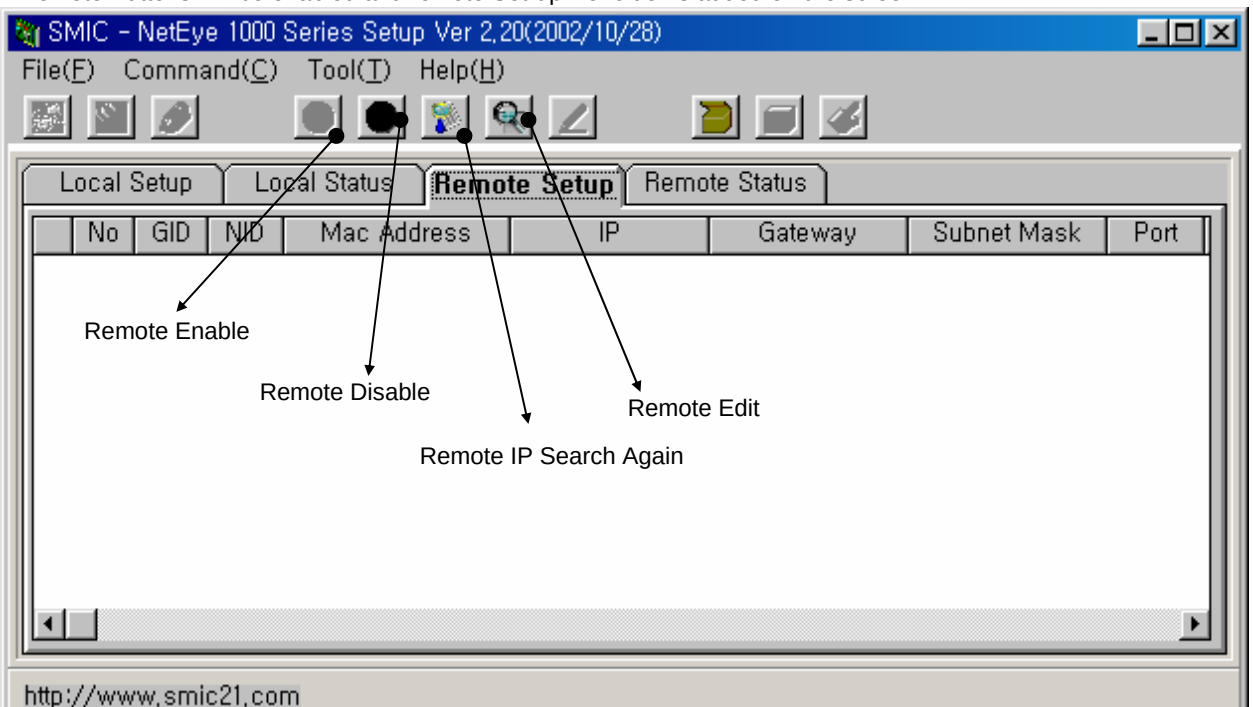

SMIC - NetEye 1000 Series Setup Ver 2.20(2002/10/28)
File(F) Command(C) Tool(T) Help(H)
Local Setup
Local Status
Remote Setup
Remote Status
No GID NID Mac Address IP Gateway Subnet Mask Port
1 A 031 00:05:77:10:08:65 100,100,8,40 100,100,8,1 255,255,255,0 8111
2 A 141 00:05:77:10:0C:2B 100,100,8,33 100,100,8,1 255,255,255,0 3000
3 A 174 00:05:77:10:04:C7 100,100,8,34 100,100,8,1 255,255,255,0 4000
Green color: TCP Established NetEye
Blue color: Selected NetEye
Group ID
A
확인
http://www.smic21.com

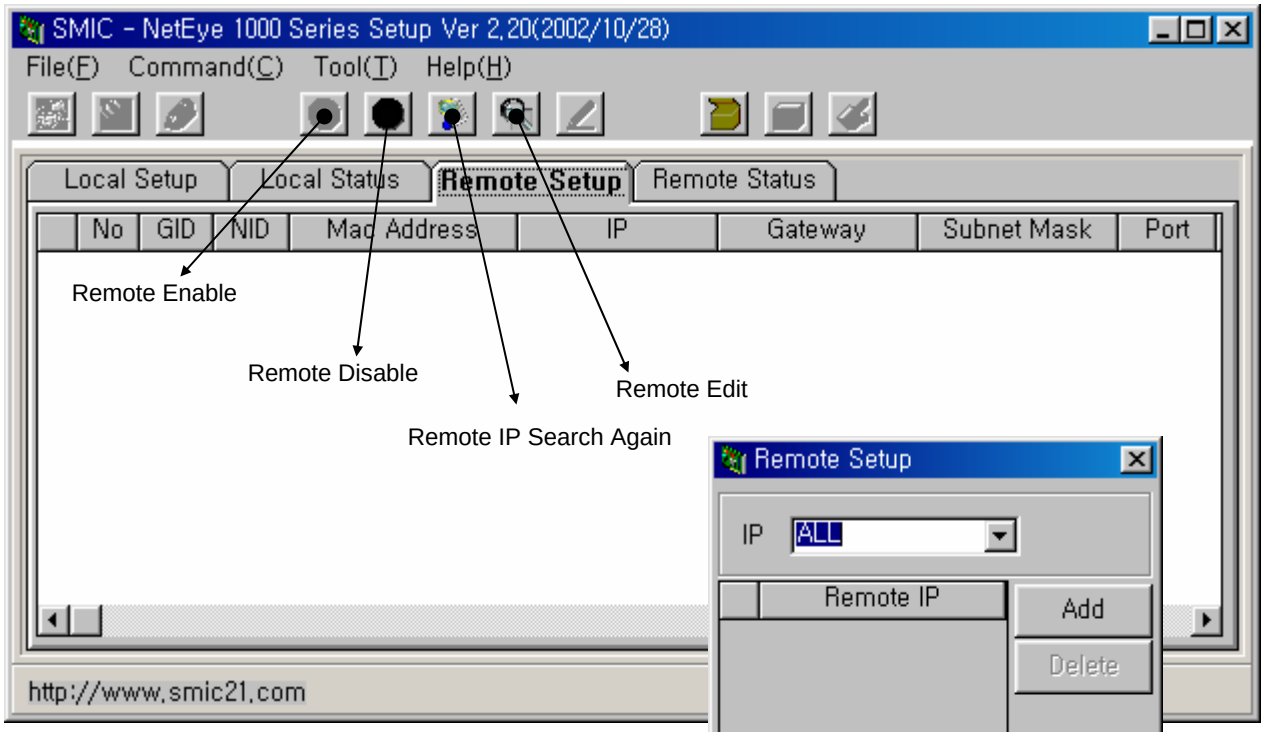
4.2. Remote Set-up

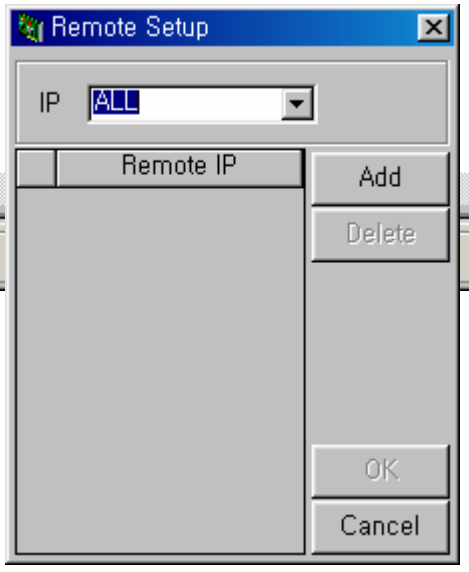
Remote Enable: Click Enable remote Button, you can see Password Input Box. Default Password is "***smicneteye***". Input password and click OK button, You can change your password.



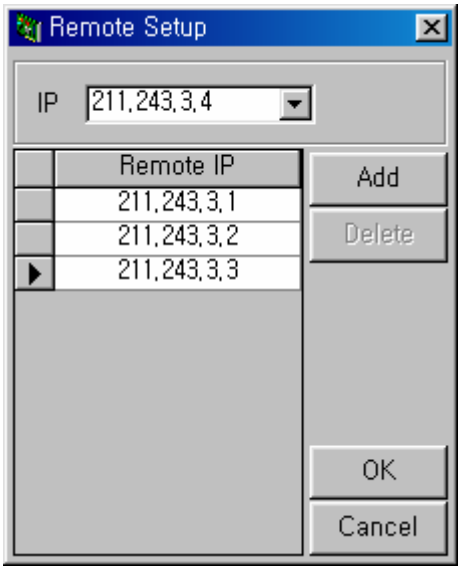
Remote Buttons will be enabled and remote Set-up file folder is added on the screen.





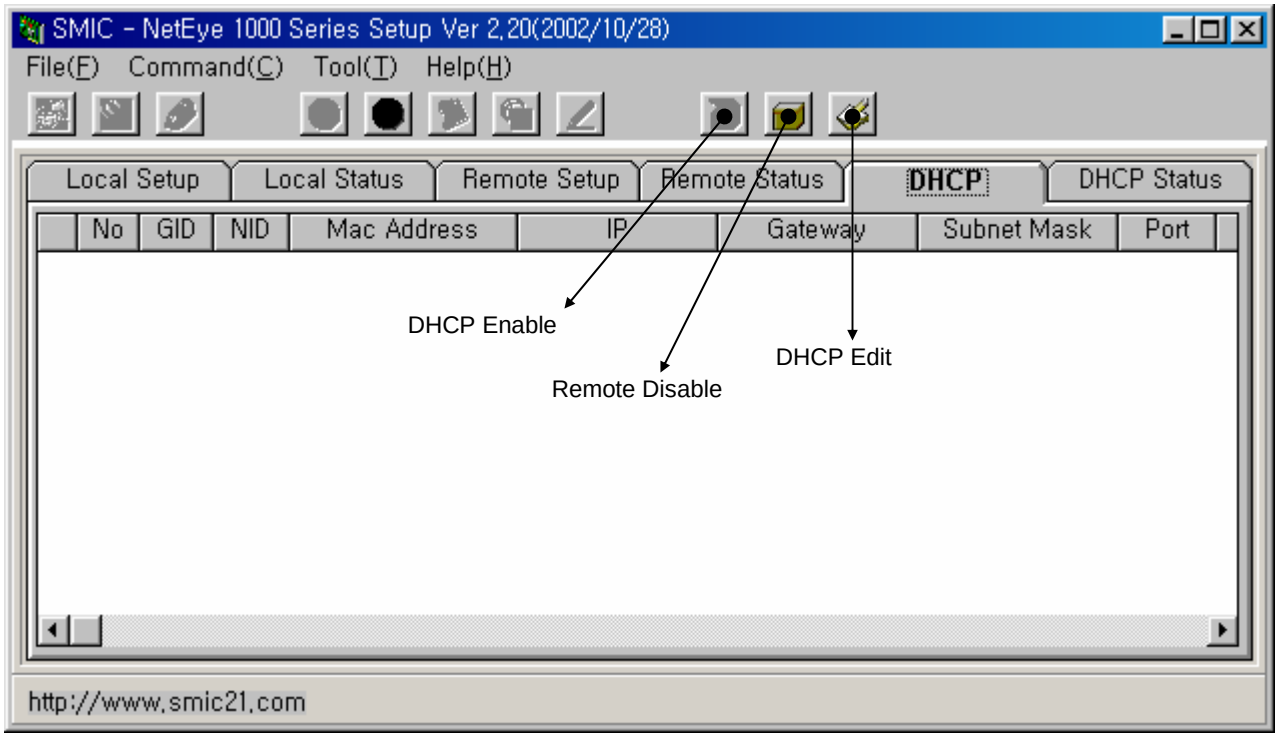


If you click Remote search IP button, Remote Setup Box is displayed.



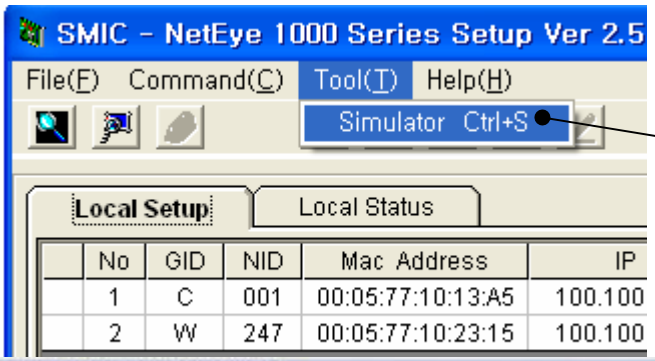
Input Remote NetEye IP address and click Add button. You can input multi remote NetEyes IP address. OK button make to search remote NetEyes and display on the screen.

4.3. DHCP Set-up

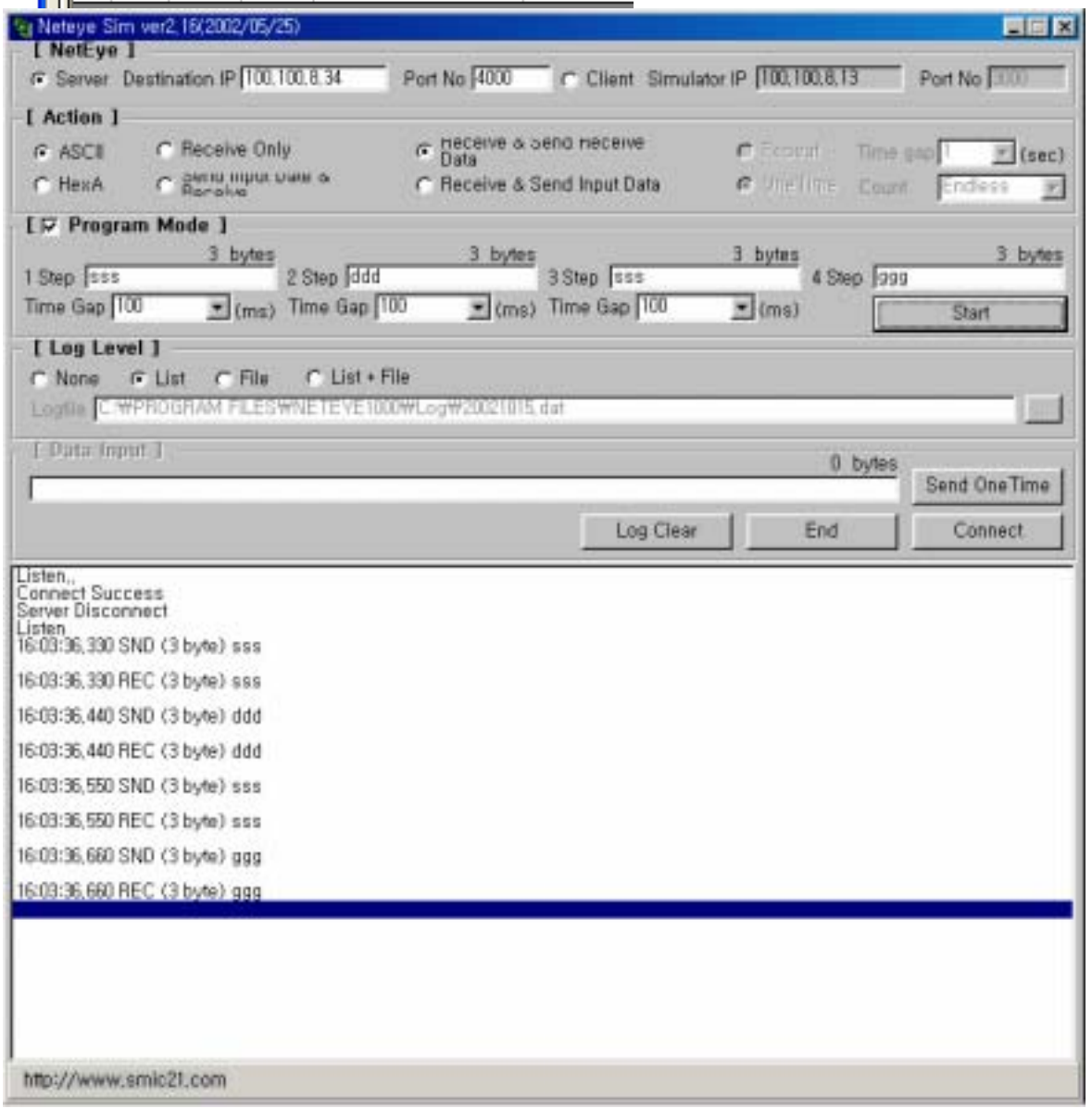


DHCP version NetEye has different firmware. In local search, Firmware version (F/W Ver) fields is DHCP. When you are in DHCP file folder menu, if DHCP NetEyes are connected to Network, it send the IP Information to the server computer. DHCP NetEyes should be setup the server computer IP address (Application IP address), at local Edit mode,in advance by system,such as window2000 server, with DHCP server fucntion.

4.4. Tool Menu


SMIC - NetEye 1000 Series Setup Ver 2.5
File(F) Command(C) Tool(T) Help(H)
Simulator Ctrl+S
Local Setup
Local Status
No GID NID Mac Address IP
1 C 001 00:05:77:10:13:A5 100.100
2 W 247 00:05:77:10:23:15 100.100

Socket simulator program Menu.


Neteye Sim ver2.16(2002/05/25)
[NetEye]
Server Destination IP 100.100.8.34 Port No 4000 Client Simulator IP 100.100.8.13 Port No
[Action]
ASCII Receive Only Receive & Send receive Data
HexA Receive & Send Input Data
[Program Mode]
1 Step sss 2 Step ddd 3 Step sss 4 Step ggg
Time Gap 100 (ms)
Start
[Log Level]
None List File List + File
[Data Input]
0 bytes
Send One Time
Log Clear End Connect
Listen..
Connect Success
Server Disconnect
Listen
16:03:36,330 SND (3 byte) sss
16:03:36,330 REC (3 byte) sss
16:03:36,440 SND (3 byte) ddd
16:03:36,440 REC (3 byte) ddd
16:03:36,550 SND (3 byte) sss
16:03:36,550 REC (3 byte) sss
16:03:36,660 SND (3 byte) ggg
16:03:36,660 REC (3 byte) ggg
http://www.smic21.com

Tool in the Menu Bar has a simulator popup menu. It starts socket simulator program with which you can send and receive message by socket program.

With this simulator, you can simulate devices such as PLC, special machine. You can send 0x03,(STX), Data, 0x04(ETX) with various time interval.